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- 1 [A proof of the security of quantum key distribution \(extended abstract\)](#)  
 Eli Biham, Michel Boyer, P. Oscar Boykin, Tal Mor, Vwani Roychowdhury  
 May 2000 **STOC '00**: Proceedings of the thirty-second annual ACM symposium  
**Publisher:** ACM [Request Permissions](#)  
 Full text available: [Pdf](#) (968.70 KB) Additional Information: [full citation](#), [references](#),  
**Bibliometrics:** Downloads (6 Weeks): 3, Downloads (12 Months): 38, Citation

- 2 [Quantum public key distribution reinvented](#)  
 Charles H. Bennett, Gilles Brassard  
 July 1987 **SIGACT News**, Volume 18 Issue 4  
**Publisher:** ACM  
 Full text available: [Pdf](#) (124.56 KB) Additional Information: [full citation](#), [references](#), [cited](#)  
**Bibliometrics:** Downloads (6 Weeks): 6, Downloads (12 Months): 54, Citation

- 3 [Quantum cryptography: A survey](#)  
 Dagmar Bruss, Gábor Erdélyi, Tim Meyer, Tobias Riege, Jörg Rothe  
 July 2007 **Computing Surveys (CSUR)**, Volume 39 Issue 2  
**Publisher:** ACM [Request Permissions](#)  
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**Keywords:** Quantum bit commitment, quantum cryptography, quantum

- 4 [Quantum cryptography in practice](#)  
 Chip Elliott, David Pearson, Gregory Troxel  
 August 2003 **SIGCOMM '03**: Proceedings of the 2003 conference on Applications, architectures, and protocols for computer communications  
**Publisher:** ACM [Request Permissions](#)  
 Full text available: [Pdf](#) (809.93 KB) Additional Information: [full citation](#), [abstract](#),  
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BBN, Harvard, and Boston University are building the DARPA Quantum I

that delivers end-to-end network security via high-speed Quantum Key Network against sophisticated eavesdropping attacks. ...

**Keywords:** IPsec, cryptographic protocols, error correction, key agreement, amplification, quantum cryptography, quantum key distribution, secure

## 5 [Quantum information: opportunities and challenges or "What's this got to do with cyber security?"](#)



Ryan Bennink

May 2008 **CSIRW '08**: Proceedings of the 4th annual workshop on Cyber intelligence research: developing strategies to meet the cyber intelligence challenges ahead

**Publisher:** ACM

Full text available: [Pdf](#) (98.67 KB)

Additional Information: [full citation](#), [appendix terms](#)

**Bibliometrics:** Downloads (6 Weeks): 12, Downloads (12 Months): 77, Citations

Modern society is shaped by the ability to transmit, manipulate, and store information. Although we tend to think of information as abstract, information is a physical process. How then should we understand ...

**Keywords:** one time pad, quantum algorithms, quantum computing, quantum key distribution

## 6 [Unconditional security in quantum cryptography](#)



Dominic Mayers

May 2001 **Journal of the ACM (JACM)**, Volume 48 Issue 3

**Publisher:** ACM [Request Permissions](#)

Full text available: [Pdf](#) (394.84 KB)

Additional Information: [full citation](#), [abstract](#),

**Bibliometrics:** Downloads (6 Weeks): 29, Downloads (12 Months): 246, Citations

Basic techniques to prove the unconditional security of quantum cryptography applied to a quantum key distribution protocol proposed by Bennett and Shor considers a practical variation on the protocol in ...

**Keywords:** quantum cryptography, quantum information theory, unconditional security

## 7 [25 years of quantum cryptography](#)



Gilles Brassard, Claude Crépeau

September 1996 **SIGACT News**, Volume 27 Issue 3

**Publisher:** ACM




Full text available: [Pdf](#) (918.87 KB)

Additional Information: [full citation](#), [abstract](#),

**Bibliometrics:** Downloads (6 Weeks): 17, Downloads (12 Months): 227, Citations

The fates of *SIGACT News* and Quantum Cryptography are inseparably linked. Stephen Wiesner's invention of "conjugate coding" is unknown but it can be found in the premier issue of *SIGACT News*---or ...

## 8 [Limits on the ability of quantum states to convey classical messages](#)



-  [Ashwin Nayak, Julia Salzman](#)  
 January 2006 **Journal of the ACM (JACM)** , Volume 53 Issue 1  
**Publisher:** ACM  [Request Permissions](#)  
 Full text available:  [Pdf](#) (171.65 KB) Additional Information: [full citation](#), [abstract](#),  
**Bibliometrics:** Downloads (6 Weeks): 7, Downloads (12 Months): 76, Citation

We revisit the problem of conveying classical messages by transmitting optimal bounds on the number of quantum bits required for this task. M problem, and on other communication tasks in ...




**Keywords:** Communication complexity, Holevo bound, Inner Product fu quantum channel, information theory, lower bounds, privacy amplificati shared entanglement, superdense coding

- 9 [Quantum mechanical approaches to information processing](#)  
 [Steven Prawer](#)  
 June 2006 **ICS '06: Proceedings of the 20th annual international conferer**  
**Publisher:** ACM  [Request Permissions](#)  
 Full text available:  [Pdf](#) (295.88 KB) Additional Information: [full citation](#), [abstract](#),  
**Bibliometrics:** Downloads (6 Weeks): 3, Downloads (12 Months): 55, Citation

Unless new paradigms can be developed for information processing the which has guided the development of the computer industry for nearly 1 shift is to design and engineer a new generation ...

- 10 [Knowledge in quantum systems](#)  
 [R. van der Meyden, Manas Patra](#)  
 June 2003 **TARK '03: Proceedings of the 9th conference on Theoretical as knowledge**  
**Publisher:** ACM  
 Full text available:  [Pdf](#) (1.09 MB) Additional Information: [full citation](#), [abstract](#),  
**Bibliometrics:** Downloads (6 Weeks): 4, Downloads (12 Months): 25, Citation


This paper applies to quantum systems a modelling for the logic of know reasoning about distributed systems, but since then applied to game th artificial intelligence. A formal model of quantum ...

- 11 [New lattice-based cryptographic constructions](#)  
 [Oded Regev](#)  
 November 2004 **Journal of the ACM (JACM)** , Volume 51 Issue 6  
**Publisher:** ACM  [Request Permissions](#)  
 Full text available:  [Pdf](#) (575.80 KB) Additional Information: [full citation](#), [abstract](#),  
**Bibliometrics:** Downloads (6 Weeks): 18, Downloads (12 Months): 136, Citatic

We introduce the use of Fourier analysis on lattices as an integral part c The tools we develop provide an elegant description of certain Gaussian points. Our results include two cryptographic ...

**Keywords:** Lattice, average-case hardness, cryptography, public key e

## 12 [New lattice based cryptographic constructions](#)

 [Oded Regev](#)

June 2003 **STOC '03**: Proceedings of the thirty-fifth annual ACM symposi

**Publisher:** ACM  [Request Permissions](#)


Full text available:  [Pdf](#) (366.52 KB) Additional Information: [full citation](#), [abstract](#),

**Bibliometrics:** Downloads (6 Weeks): 2, Downloads (12 Months): 33, Citation

We introduce the use of Fourier analysis on lattices as an integral part c  
tools we develop provide an elegant description of certain Gaussian dist  
Our results include two cryptographic ...

**Keywords:** average-case hardness, cryptography, lattices, public key e

## 13 [Quantum information processing and communication: the computer :](#)

 [Philippe Jorrand](#)

March 2007 **ACM-SE 45**: Proceedings of the 45th annual southeast regiona

**Publisher:** ACM  [Request Permissions](#)

Full text available:  [Pdf](#) (69.00 KB) Additional Information: [full citation](#), [abstract](#),

**Bibliometrics:** Downloads (6 Weeks): 5, Downloads (12 Months): 51, Citation

Information is physical: the laws which govern its encoding, processing  
its unavoidable physical embodiment. In today's computing, informatio  
Maxwell's classical physics: this assertion holds ...

## 14 [Quantum cryptography](#)

 [D. Wiedemann](#)

September 1986 **SIGACT News** , Volume 18 Issue 2

**Publisher:** ACM

Full text available:  [Pdf](#) (154.28 KB) Additional Information: [full citation](#), [abstract](#),

**Bibliometrics:** Downloads (6 Weeks): 8, Downloads (12 Months): 54, Citation

An idea of Stephen Wiesner [1] is expanded to give a method of public  
secure under the principles of quantum mechanics. It appears that this  
implemented in favorable environments.

## 15 [High-level interconnect model for the quantum logic array architectur](#)

 [Tzvetan S. Metodj](#), [Darshan D. Thaker](#), [Andrew W. Cross](#), [Isaac L. Chuang](#),  
March 2008 **Journal on Emerging Technologies in Computing System**


**Publisher:** ACM  [Request Permissions](#)

Full text available:  [Pdf](#) (525.94 KB) Additional Information: [full citation](#), [abstract](#),

**Bibliometrics:** Downloads (6 Weeks): 16, Downloads (12 Months): 201, Citati

We summarize the main characteristics of the quantum logic array (QLA  
at the key issues not described in the original conference publications: p  
logical interconnect. The design goal ...

**Keywords:** QLA, Quantum computer architecture design, fault tolerance, teleportation

- 16** [Quantum networks: from quantum cryptography to quantum architecture](#)  
 Tatjana Curcic, Mark E. Filipkowski, Almadena Chitchekanova, Philip A. D'A  
 Foster, Douglas Cochran

October 2004 **SIGCOMM Computer Communication Review**, Volume 34 Issue 4

**Publisher:** ACM


Full text available:  Pdf (221.26 KB)

Additional Information: [full citation](#), [abstract](#),

**Bibliometrics:** Downloads (6 Weeks): 17, Downloads (12 Months): 132, Citations: 1



As classical information technology approaches limits of size and function, new paradigms for the distribution and processing of information are needed. We provide a broad view of the beginning ...

- 17** [Toward a world with quantum computers](#)

 Dave Bacon, Debbie Leung

September 2007 **Communications of the ACM**, Volume 50 Issue 9


**Publisher:** ACM 

Full text available:  Html (27.03 KB),  Pdf (118.15 KB) Additional Information: [full citation](#), [abstract](#)

**Bibliometrics:** Downloads (6 Weeks): 48, Downloads (12 Months): 663, Citations: 1

Surveying the recent past and projecting future developments and applications in quantum information science.

- 18** [An introduction to quantum computing for non-physicists](#)

 September 2000 **Computing Surveys (CSUR)**, Volume 32 Issue 3

**Publisher:** ACM 

Full text available:  Pdf (491.89 KB)


Additional Information: [full citation](#), [abstract](#),

**Bibliometrics:** Downloads (6 Weeks): 79, Downloads (12 Months): 792, Citations: 1

Richard Feynman's observation that certain quantum mechanical effects on a computer led to speculation that computation in general could be carried out using these quantum effects. This speculation proved ...


**Keywords:** complexity, parallelism, quantum computing

- 19** [Communicating quantum processes](#)

 Simon J. Gay, Rajagopal Nagarajan

January 2005 **POPL '05: Proceedings of the 32nd ACM SIGPLAN-SIGACT symposium on programming languages**

**Publisher:** ACM 

Full text available:  Pdf (247.88 KB)

Additional Information: [full citation](#), [abstract](#),

**Bibliometrics:** Downloads (6 Weeks): 9, Downloads (12 Months): 68, Citations: 1


We define a language CQP (Communicating Quantum Processes) for modeling quantum and classical communication and computation. CQP combines the pi-calculus with primitives for measurement and transformation ...

**Keywords:** formal language, quantum communication, quantum computation, quantum verification

Also published in:

January 2005 **SIGPLAN Notices** Volume 40 Issue 1

## 20 [Tensor norms and the classical communication complexity of nonlocal](#)

 [Yaoyun Shi](#)

May 2005 **STOC '05**: Proceedings of the thirty-seventh annual ACM symposium

**Publisher:** ACM  [Request Permissions](#)

Full text available:  [Pdf](#) (202.30 KB) Additional Information: [full citation](#), [abstract](#),

**Bibliometrics:** Downloads (6 Weeks): 3, Downloads (12 Months): 36, Citation





Nonlocality is at the heart of quantum information processing. In this paper, we give a new amount of classical communication required to simulate a nonlocal quantum state. We give general upper bounds, which in turn translate to ...

**Keywords:** bell inequality, classical simulation, communication complexity, quantum entanglement, tensor norms

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